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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0308699F: Shared Early Warning System							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	3.060	3.047	2.952	0.000	2.952	1.679	1.210	1.212	1.223	Continuing	Continuing
674838: Shared Early Warning System	3.060	3.047	2.952	0.000	2.952	1.679	1.210	1.212	1.223	Continuing	Continuing
A. Mission Description and Budget Item Justification											
<p>The Shared Early Warning System (SEWS) is the result of Presidential foreign policy initiatives beginning in 1996. The SEWS continues to provide Theater Combatant Commanders and foreign nation partners direct operational benefit by improving the architectural design and equipment thereby providing enhanced mission capabilities (i.e., expanding coverage, integration with active defense systems, &amp; radar integration). Foreign partner arrangements are negotiated with individual countries on a bilateral basis to provide selected region-specific missile warning information. To enhance mission capability the SEWS program tests: the Integrated Broadcast Service (IBS) migration to Common Interactive Broadcast (CIB), mandatory crypto upgrades, SEWS integration with various radar systems, and the transition to "coalition-based" warning. SEWS utilizes Federally Funded Research &amp; Development Centers (FFRDC), Engineering and Technology Acquisition Support Services (ETASS), and Advisory and Assistance Services (A&amp;AS) contractors to support design, development, and acquisition of a common SEWS architecture to enhance mission capability of existing and future partners; enhance development of a multi-lingual, web-based infrastructure to provide Pre-Launch Notification System information; site preparation for additional systems, as required, and posture for the design, development, and test of a Joint Data Exchange Center (JDEC) in Moscow, Russia.</p> <p>Activities also include studies and analysis to support both current program planning and execution and future program planning.</p> <p>This program is in Budget Activity 7 - Operational System Development, because it supports work on currently operating systems and/or upgrades still in engineering development.</p>											

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APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			
3600: Research, Development, Test & Evaluation, Air Force		PE 0308699F: Shared Early Warning System			
BA 7: Operational Systems Development					
B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	3.060	3.082	0.000	0.000	0.000
Current President's Budget	3.060	3.047	2.952	0.000	2.952
Total Adjustments	0.000	-0.035	2.952	0.000	2.952
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	-0.035			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	0.000	0.000	2.952	0.000	2.952

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force								DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0308699F: Shared Early Warning System				PROJECT 674838: Shared Early Warning System			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
674838: Shared Early Warning System	3.060	3.047	2.952	0.000	2.952	1.679	1.210	1.212	1.223	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		
A. Mission Description and Budget Item Justification											
<p>The Shared Early Warning System (SEWS) is the result of Presidential foreign policy initiatives beginning in 1996. The SEWS continues to provide Theater Combatant Commanders and foreign nation partners direct operational benefit by improving the architectural design and equipment thereby providing enhanced mission capabilities (i.e., expanding coverage, integration with active defense systems, &amp; radar integration). Foreign partner arrangements are negotiated with individual countries on a bilateral basis to provide selected region-specific missile warning information. To enhance mission capability the SEWS program tests: the Integrated Broadcast Service (IBS) migration to Common Interactive Broadcast (CIB), mandatory crypto upgrades, SEWS integration with various radar systems, and the transition to "coalition-based" warning. SEWS utilizes Federally Funded Research &amp; Development Centers (FFRDC), Engineering and Technology Acquisition Support Services (ETASS), and Advisory and Assistance Services (A&amp;AS) contractors to support design, development, and acquisition of a common SEWS architecture to enhance mission capability of existing and future partners; enhance development of a multi-lingual, web-based infrastructure to provide Pre-Launch Notification System information; site preparation for additional systems, as required, and posture for the design, development, and test of a Joint Data Exchange Center (JDEC) in Moscow, Russia.</p> <p>Activities also include studies and analysis to support both current program planning and execution and future program planning.</p> <p>This program is in Budget Activity 7 - Operational System Development, because it supports work on currently operating systems and/or upgrades still in engineering development.</p>											
B. Accomplishments/Planned Program (\$ in Millions)											
							FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: Development of SEWS common architecture and SEWS initiatives as identified by theater commanders.							3.060	3.047	2.952	0.000	2.952

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APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0308699F: Shared Early Warning System		PROJECT 674838: Shared Early Warning System		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2009 Accomplishments: In FY 2009: Investigated a number of potential system and infrastructure improvements, including an Radio Frequency (RF)-to-fiber converter. Research and developed standard SEW architecture upgrades, to include assissing the impacts of future Global Command & Control System (GCCS) upgrades and developing a hardware reduction plan. Developed and demonstrated a prototype remote data and Process ID (PID) monitoring capability. Tested the utility of intrusion protection systems. Made multiple SEWS lab enhancements. Investigated the utility of employing Network Time Protocol (NTP) servers at inject sites. Also investigated various alternate means of passing data to partners, to include Broadband Global Area Network/Voice over Internet Protocal (BGAN/VoIP) enhancements, web-based verification, BGAN multicasting, Central Command (CENTCOM) BGAN/ conventional SEWS Laptop (SLAP) kits, Iridium Openport/Direct Internet Data Service evaluations, a ViaSat terminal evaluation. Developed new Radiant Mercury capabilities necessary for future program activities.						
FY 2010 Plans: In FY 2010: Will continue to investigate a number of potential system and infrastructure improvements, including continuing the NTP server investigation along with GCCS-Joint (GCCS-J) Integrated C4I System Framework (ICSF) client and Clear-Cube-type blade PC evaluations. Will also continue investigating how to employ the results of BGAN/VoIP enhancement studies while completing the BGAN multicasting study and the Iridium Evaluation. Will also evaluate the utility of various bilateral partner networks along with Exercise and Operational Communications (XOCOMM) as a data source. Will complete several enhancements to existing Radiant Mercury cross-domain solutions capabilities. Will also increase Integrated Space Command and Control Systems Enginnering (ISC2 SE) support and GCCS support to SEW system development, especially for data formats and Interface Control Document (ICD) development. Will continue to posture for possible deployment of the JDEC system in Moscow and development of a multi-lingual, web-based infrastructure to provide Pre-Launch Notification System information.						

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0308699F: Shared Early Warning System			PROJECT 674838: Shared Early Warning System				
B. Accomplishments/Planned Program (\$ in Millions)											
						FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	
FY 2011 Base Plans: In FY 2011: Will continue to design, develop, test and investigate a number of significant system upgrades, to include but not limited to changes to the IBS broadcast and the accompanying USB Embedded National Tactical Radio (ENTR) radios along with the IBS Common Message Format. Will complete a demonstration of the remote data and PID monitoring capability previously developed. Will begin to implement a study of how to integrate SEW-S/SEW-R data. Will develop a deployable SEW System (DSS) prototype. Will evaluate alternatives to the aging bisynchronous serial tunneling (BSTUN) protocol currently used by SEWS. Will continue to support all phases of the test process and increase ISC2 SE support and GCCS support to SEW system development. Will continue to posture for possible deployment of the JDEC system in Moscow and development of a multi-lingual, web-based infrastructure to provide Pre-Launch Notification System information.											
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.											
Accomplishments/Planned Programs Subtotals						3.060	3.047	2.952	0.000	2.952	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total	FY 2012	FY 2013	FY 2014	FY 2015	Cost To Complete	Total Cost
• PE Not Provided (8159): Activity Not Provided	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
• PE 0308699F: Comm Elect Mods, (OPAF)	3.715	0.238	0.312	0.000	0.312	0.318	0.323	0.329	0.333	0.000	0.000
D. Acquisition Strategy											
The acquisition strategy builds on existing capabilities, using evolutionary acquisition and spiral development, to modernize and sustain SEWS.											

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APPROPRIATION/BUDGET ACTIVITY 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308699F: <i>Shared Early Warning System</i>	PROJECT 674838: <i>Shared Early Warning System</i>
<b>E. Performance Metrics</b> Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010			
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development					R-1 ITEM NOMENCLATURE PE 0308699F: Shared Early Warning System					PROJECT 674838: Shared Early Warning System				
Product Development (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
System Development	C/CPAF	Lockheed Martin Colorado Springs, CO	15.808	1.408	Oct 2009	1.248	Oct 2010	0.000		1.248	Continuing	Continuing	Continuing	
Integration & Modernization	MIPR	US Navy San Diego, CA	2.236	0.434	Feb 2010	0.352	Feb 2011	0.000		0.352	Continuing	Continuing	Continuing	
Product Development	MIPR	Various Colorado Springs, CO	6.201	0.607	Jan 2010	0.763	Jan 2011	0.000		0.763	Continuing	Continuing	Continuing	
Subtotal			24.245	2.449		2.363		0.000		2.363				
Remarks														
Support (\$ in Millions)														
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Systems Engineering	SS/CPFF	MITRE Colorado Springs, CO	4.271	0.160	Oct 2009	0.174	Oct 2010	0.000		0.174	Continuing	Continuing	Continuing	
A&AS	TM	ETASS Colorado Springs, CO	7.172	0.430	Jan 2010	0.404	Jan 2011	0.000		0.404	Continuing	Continuing	Continuing	
PMA	C/Various	AFMC/ESC	1.234	0.008	Oct 2009	0.011	Oct 2010	0.000		0.011	Continuing	Continuing	Continuing	

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<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</b> PB 2011 Air Force											<b>DATE:</b> February 2010		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0308699F: <i>Shared Early Warning System</i>				<b>PROJECT</b> 674838: <i>Shared Early Warning System</i>					
<b>Support (\$ in Millions)</b>													
				<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
		Colorado Springs, CO											
<b>Subtotal</b>			12.677	0.598		0.589		0.000		0.589			
<b>Remarks</b>													
			<b>Total Prior Years Cost</b>	<b>FY 2010</b>		<b>FY 2011 Base</b>		<b>FY 2011 OCO</b>		<b>FY 2011 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>			36.922	3.047		2.952		0.000		2.952			
<b>Remarks</b> Total Prior Years Cost may include only FY 2009 data.													

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force

DATE: February 2010

**APPROPRIATION/BUDGET ACTIVITY**

3600: Research, Development, Test & Evaluation, Air Force  
BA 7: Operational Systems Development

**R-1 ITEM NOMENCLATURE**

PE 0308699F: Shared Early Warning System

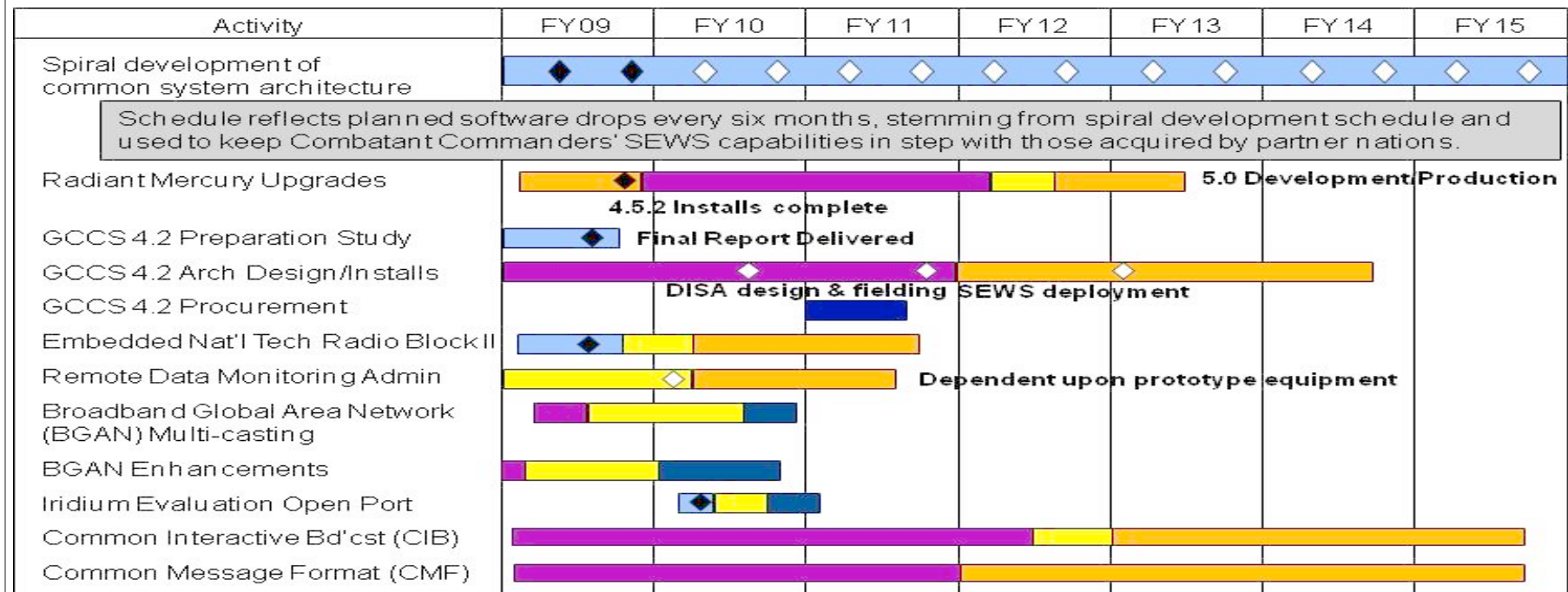
**PROJECT**

674838: Shared Early Warning System



U.S. AIR FORCE

# SEWS Program Schedule



Concept activities  
Production / fielding

Design / development  
Pre-Production

Integration / test  
Key events

v3.00 20080609

Integrity - Service - Excellence

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Air Force			<b>DATE:</b> February 2010
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0308699F: <i>Shared Early Warning System</i>	<b>PROJECT</b> 674838: <i>Shared Early Warning System</i>	

Schedule Details

Event	Start		End	
	Quarter	Year	Quarter	Year
Spiral development of common system architecture	1	2009	3	2011
Radiant Mercury 4.5.2 Upgrade Install Complete	4	2009	4	2009
GCCS 4.2 Preparation Study Final Report Delivered	3	2009	3	2009
GCCS 4.2 Architecture Design	1	2009	4	2011
Embedded Nat'l Tech Radio Block II	1	2009	3	2011
Remote Data Monitoring Adm	1	2009	2	2011

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